

## ABSTRACT

The present invention provides a low-cost hydrogen gas sensor, which exhibits high sensory selectivity for protons and operates at room temperature, and can also provide a highly sensitive sensor capable of fulfilling the important functions of detecting hydrogen gas and preventing leakage accidents in production plants that use hydrogen gas as a carrier, in hydrogen gas storage facilities, and in so-called fuel cells that use hydrogen gas as an energy source. In addition, the sensor is also effective as an acid sensor for hydrofluoric acid and the like.

The present invention relates to an acid and hydrogen gas sensor, wherein protons are brought into contact with an organic compound containing an introduced pyridine ring (such as pyridine-DPP), and the change in electrical resistivity, photoconductivity, or optical absorption band for the organic compound that accompanies proton addition is detected.